REMARKS

This Response, submitted in reply to the Office Action dated January 24, 2008, is

believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable

reconsideration on the merits is respectfully requested.

Claims 1-17 are all the claims pending in the application.

I.   Preliminary Matter

Applicant notes that the Examiner has not provided the Applicant with an initialed copy

of the PTO Form-1449 filed on June 28, 2005, October 13, 2004, and September 18, 2006.

Therefore, Applicant requests that the Examiner provide the Applicant with initialed copies of

the PTO Forms-1449 in the next Office Action.

II.   Rejection of claims 1-3, 8-10, 12-15 and 17 under 35 U.S.C. § 102

Claims 1-3, 8-10, 12-15 and 17 stand rejected under 35 U.S.C. § 102(e) as being

anticipated by Lakshman et al. (U.S. Patent No. 6,341,130; hereinafter "Lakshman").

Claim 1 is directed to a packet classification apparatus using a field level tries structure

and the apparatus includes a main processing part for generating and maintaining the field level

tries structure, which organizes a multi-field packet by field in a hierarchical structure for

classifications. The Examiner asserts that Fig. 9B and col. 13, lines 15-48 of Lakshman teaches

this aspect of the claim.

The respective column and lines of Lakshman cited by the Examiner describes a virtual

interval and point propagation to reduce search time of a classification algorithm. However,

there is no teaching or suggestion of a main processing part of a packet classification apparatus,

as claimed. Specifically, there is no teaching or suggestion of a packet classification apparatus or that such an apparatus comprises a main processing part.

Claim 1 further recites "**a plurality of classification engines, each** classification engine provided with **a first classification part** for performing queries and updates and processing a prefix lookup represented by an IP address lookup, and **a second classification part** for proceeding with packet classification by field based on a result of the first classification part in order to process a range lookup belonging to the result."

The Examiner appears to concede that Lakshman does not teach <u>a plurality of classification engines</u>, therefore the Examiner asserts that <u>it would be obvious</u> to have multiple forward engines in a network for packet classification. See page 2, para. 2 of Office Action. Specifically, since the Examiner has not shown where a plurality of classification engines are disclosed in Lakshman, the Examiner's anticipation rejection is improper. There is no teaching or suggestion of a plurality of classification engines as claimed. Lakshman merely discloses router algorithms and architectures for supporting packet filter operations using two packet fields.

Further, the Examiner states that <u>it is obvious</u> to have multiple forward engines in a network for packet classification. If the Examiner means to assert an obviousness rejection, then Applicant submits that the grounds of the rejection should be modified. Specifically, claim 1 was rejected as being <u>anticipated</u> by Lakshman. Since the Examiner appears to concede that Lakshman does not teach a plurality of classification engines, that is, that Lakshman does not teach or suggest every element of claim 1, Applicant submits that Lakshman does not anticipate

claim 1. Consequently, Applicant submits that the grounds for the Examiner's rejection should be corrected.

The Examiner asserts that the field processor 1035 of Lakshman teaches the claimed first classification part, citing Fig. 10, col. 4, lines 3-6; col. 7, lines 50-59; col. 13, lines 18-22; and col. 14, lines 8-9, in support. Field processor 1035 of Lakshman updates fields of the packet stored in pipeline register 1025 based on the identified filter rule to be applied to the incoming packet. See col. 14, lines 5-12. However, there is no teaching or suggestion that field processor 1035, first classification part as cited by the Examiner, performs queries or processes a prefix lookup represented by an IP address lookup as claimed.

The Examiner asserts that a second classification part is disclosed in Figs. 9A and 9B and col. 13, lines 22-25, 20-48 and 51-60. Figs. 9A and 9B illustrate a packet filter employing virtual intervals. However, there is no teaching or suggestion of a second classification part of a packet classification apparatus. Further, the respective column and lines of Lakshman cited by the Examiner merely describe the use of virtual intervals. There is no teaching or suggestion of a second classification part of a packet classification apparatus for proceeding with packet classification by field based on a result of the first classification part in order to process a range lookup belonging to the result, as claimed.

For at least the above reasons, claim 1 and its dependent claims should be deemed allowable. To the extent independent claims 13 and 14 recite similar subject matter, claims 13 and 14 and their dependent claims should be deemed allowable for at least the same reasons.

III.   Rejection of claims under 35 U.S.C. § 103

Claims 4, 11 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Lakshman in view of Eatherton et al. (U.S. Patent No. 6,560,610; hereinafter "Eatherton").

Claims 4, 11, and 16 should be deemed allowable by virtue of their dependency to claims 1 and

14 for at least the reasons set forth above. Moreover, Eatherton does not cure the deficiencies of

Lakshman.

Claim 4 recites "wherein the first classification part of each classification engine stores

fields of a prefix format and uses a ternary content addressable memory (TCAM) to search the

stored fields." The Examiner asserts that Eatherton teaches this aspect of the claim, however,

Eatherton appears to at most teach a content addressable memory (CAM) and not a ternary

content addressable memory, as claimed.

On page 3 of the Office Action, the Examiner asserts that a memory CAM handles the

searching of stored fields and a ternary CAM is very well known memory for packet

classification. However, the Examiner appears to be merely making allegations without any

support in the prior art. There is no teaching or suggestion of a TCAM in the art cited by the

Examiner. If the Examiner believes that such a TCAM is obvious, then the Examiner should

provide grounds for such reasoning based on prior art. Mere assertions of obviousness, without

more, is insufficient to establish grounds for obviousness.

Consequently, claim 4 should be deemed allowable.

IV.   Rejection of claims 5 and 6 under 35 U.S.C. § 103

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

Lakshman in view of Lampson (IP Lookups Using Multiway and Multicolumn Search, IEEE

Vol. 7, No. 3, June 1999; hereinafter "Lampson"). Claims 5 and 6 should be deemed allowable

by virtue of their dependency to claim 1 for at least the reasons set forth above. Moreover,

Lampson does not cure the deficiencies of Lakshman.

V.   Rejection of claim 7 under 35 U.S.C. § 103

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Lakshman

in view of Bergantino et al. (U.S. Patent No. 6,798,778; hereinafter "Bergantino"). Claim 7

should be deemed allowable by virtue of its dependency to claim 1 for at least the reasons set

forth above. Moreover, Bergantino does not cure the deficiencies of Lakshman.

VI.   Conclusion

In view of the above, reconsideration and allowance of this application are now believed

to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is

kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

overpayments to said Deposit Account.

Respectfully submitted,

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